

atg aca tcg ccc cag cta gag tgg act ctg cag acc ctt ctg gag cag	48
Met Thr Ser Pro Gln Leu Glu Trp Thr Leu Gln Thr Leu Leu Glu Gln	
1 5 10 15	
ctg aac gag gat gaa tta aag agt ttc aaa tcc ctt tta tgg gct ttt	96
Leu Asn Glu Asp Glu Leu Lys Ser Phe Lys Ser Leu Leu Trp Ala Phe	
20 25 30	
ccc ctc gaa gac gtg cta cag aag acc cca tgg tct gag gtg gaa gag	144
Pro Leu Glu Asp Val Leu Gln Lys Thr Pro Trp Ser Glu Val Glu Glu	
35 40 45	
gct gat ggc aag aaa ctg gca gaa att ctg gtc aac acc tcc tca gaa	192
Ala Asp Gly Lys Lys Leu Ala Glu Ile Leu Val Asn Thr Ser Ser Glu	
50 55 60	
aat tgg ata agg aat gcg act gtg aac atc ttg gaa gag atg aat ctc	240
Asn Trp Ile Arg Asn Ala Thr Val Asn Ile Leu Glu Glu Met Asn Leu	
65 70 75 80	
acg gaa ttg tgt aag atg gca aag gct gag atg atg gag gac gga cag	288
Thr Glu Leu Cys Lys Met Ala Lys Ala Glu Met Met Glu Asp Gly Gln	
85 90 95	
gtg caa gaa ata gat aat cct gag ctg gga gat gca gaa gaa gac tcg	336
Val Gln Glu Ile Asp Asn Pro Glu Leu Gly Asp Ala Glu Glu Asp Ser	
100 105 110	
gag tta gca aag cca ggt gaa aag gaa gga tgg aga aat tca atg gag	384
Glu Leu Ala Lys Pro Gly Glu Lys Glu Gly Trp Arg Asn Ser Met Glu	
115 120 125	
aaa caa tct ttg gtc tgg aag aac acc ttt tgg caa gga gac att gac	432
Lys Gln Ser Leu Val Trp Lys Asn Thr Phe Trp Gln Gly Asp Ile Asp	
130 135 140	
aat ttc cat gac gac gtc act ctg aga aac caa cgg ttc att cca ttc	480
Asn Phe His Asp Asp Val Thr Leu Arg Asn Gln Arg Phe Ile Pro Phe	
145 150 155 160	
ttg aat ccc aga aca ccc agg aag cta aca cct tac acg gtg gtg ctg	528
Leu Asn Pro Arg Thr Pro Arg Lys Leu Thr Pro Tyr Thr Val Val Leu	
165 170 175	
cac ggc ccc gca ggc gtg ggg aaa acc acg ctg gcc aaa aag tgt atg	576
His Gly Pro Ala Gly Val Gly Lys Thr Thr Leu Ala Lys Lys Cys Met	
180 185 190	
ctg gac tgg aca gac tgc aac ctc agc ccg acg ctc aga tac gcg ttc	624
Leu Asp Trp Thr Asp Cys Asn Leu Ser Pro Thr Leu Arg Tyr Ala Phe	
195 200 205	

Fig. 1A

tac ctc agc tgc aag gag ctc agc cgc atg ggc ccc tgc agt ttt gca	672
Tyr Leu Ser Cys Lys Glu Leu Ser Arg Met Gly Pro Cys Ser Phe Ala	
210 215 220	
 gag ctg atc tcc aaa gac tgg cct gaa ttg cag gat gac att cca agc	 720
Glu Leu Ile Ser Lys Asp Trp Pro Glu Leu Gln Asp Asp Ile Pro Ser	
225 230 235 240	
 atc cta gcc caa gca cag aga atc ctg ttc gtg gtc gat ggc ctt gat	 768
Ile Leu Ala Gln Ala Gln Arg Ile Leu Phe Val Val Asp Gly Leu Asp	
245 250 255	
 gag ctg aaa gtc cca cct ggg gcg ctg atc cag gac atc tgc ggg gac	 816
Glu Leu Lys Val Pro Pro Gly Ala Leu Ile Gln Asp Ile Cys Gly Asp	
260 265 270	
 tgg gag aag aag aag ccg gtg ccc gtc ctc ctg ggg agt ttg ctg aag	 864
Trp Glu Lys Lys Lys Pro Val Pro Val Leu Leu Gly Ser Leu Leu Lys	
275 280 285	
 agg aag atg tta ccc agg gca gcc ttg ctg gtc acc acg cgg ccc agg	 912
Arg Lys Met Leu Pro Arg Ala Ala Leu Leu Val Thr Thr Arg Pro Arg	
290 295 300	
 gca ctg agg gac ctc cag ctc ctg gcg cag cag ccg atc tac ata agg	 960
Ala Leu Arg Asp Leu Gln Leu Leu Ala Gln Gln Pro Ile Tyr Ile Arg	
305 310 315 320	
 gtg gag ggc ttc ctg gag gag gac agg agg gcc tat ttc ctg aga cac	 1008
Val Glu Gly Phe Leu Glu Glu Asp Arg Arg Ala Tyr Phe Leu Arg His	
325 330 335	
 ttt gga gac gag gac caa gcc atg cgt gcc ttt gag cta atg agg agc	 1056
Phe Gly Asp Glu Asp Gln Ala Met Arg Ala Phe Glu Leu Met Arg Ser	
340 345 350	
 aac gcg gcc ctg ttc cag ctg ggc tcg gcc ccc gcg gtg tgc tgg att	 1104
Asn Ala Ala Leu Phe Gln Leu Gly Ser Ala Pro Ala Val Cys Trp Ile	
355 360 365	
 gtg tgc acg act ctg aag ctg cag atg gag aag ggg gag gac ccg ccg	 1152
Val Cys Thr Thr Leu Lys Leu Gln Met Glu Lys Gly Glu Asp Pro Pro	
370 375 380	
 gtt ccc gca ggg cgc aca gct gcg ggg cgc gct gcg gac gct gag cct	 1200
Val Pro Ala Gly Arg Thr Ala Ala Gly Arg Ala Ala Asp Ala Glu Pro	
385 390 395 400	
 cct ggc cgc gca ggg ctg tgg gcg cag atg tcc gtg ttc cac cga gag	 1248
Pro Gly Arg Ala Gly Leu Trp Ala Gln Met Ser Val Phe His Arg Glu	
405 410 415	

Fig. 1B

gac ctg gaa agg ctc ggg gtg cag gag tcc gac ctc cgt ctg ttc ctg Asp Leu Glu Arg Leu Gly Val Gln Glu Ser Asp Leu Arg Leu Phe Leu 420 425 430	1296
gac gga gac atc ctc cgc cag gac aga gtc tcc aaa ggc tgc tac tcc Asp Gly Asp Ile Leu Arg Gln Asp Arg Val Ser Lys Gly Cys Tyr Ser 435 440 445	1344
ttc atc cac ctc agc ttc cag cag ttt ctc act gcc ctg ttc tac gcc Phe Ile His Leu Ser Phe Gln Gln Phe Leu Thr Ala Leu Phe Tyr Ala 450 455 460	1392
ctg gag aag gag gag gag gag gac agg gac ggc cac gcc tgg gac att Leu Glu Lys Glu Glu Glu Glu Asp Arg Asp Gly His Ala Trp Asp Ile 465 470 475 480	1440
ggg gac gta cag aag ctg ctt tcc gga gaa gaa aga ctc aag aac ccc Gly Asp Val Gln Lys Leu Leu Ser Gly Glu Glu Arg Leu Lys Asn Pro 485 490 495	1488
gac ctg att caa gta gga cac ttc tta ttc ggc ctc gct aac gag aag Asp Leu Ile Gln Val Gly His Phe Leu Phe Gly Leu Ala Asn Glu Lys 500 505 510	1536
aga gcc aag gag ttg gag gcc act ttt ggc tgc cgg atg tca ccg gac Arg Ala Lys Glu Leu Glu Ala Thr Phe Gly Cys Arg Met Ser Pro Asp 515 520 525	1584
atc aaa cag gaa ttg ctg caa tgc aaa gca cat ctt cat gca aat aag Ile Lys Gln Glu Leu Leu Gln Cys Lys Ala His Leu His Ala Asn Lys 530 535 540	1632
ccc tta tcc gtg acc gac ctg aag gag gtc ttg ggc tgc ctg tat gag Pro Leu Ser Val Thr Asp Leu Lys Glu Val Leu Gly Cys Leu Tyr Glu 545 550 555 560	1680
tct cag gag gag gag ctg gcg aag gtg gtg gtg gcc ccg ttc aag gaa Ser Gln Glu Glu Glu Leu Ala Lys Val Val Val Ala Pro Phe Lys Glu 565 570 575	1728
att tct att cac ctg aca aat act tct gaa gtg atg cat tgt tcc ttc Ile Ser Ile His Leu Thr Asn Thr Ser Glu Val Met His Cys Ser Phe 580 585 590	1776
agc ctg aag cat tgt caa gac ttg cag aaa ctc tca ctg cag gta gca Ser Leu Lys His Cys Gln Asp Leu Gln Lys Leu Ser Leu Gln Val Ala 595 600 605	1824
aag ggg gtg ttc ctg gag aat tac atg gat ttt gaa ctg gac att gaa Lys Gly Val Phe Leu Glu Asn Tyr Met Asp Phe Glu Leu Asp Ile Glu 610 615 620	1872

Fig. 1C

TEOSO" SE031860

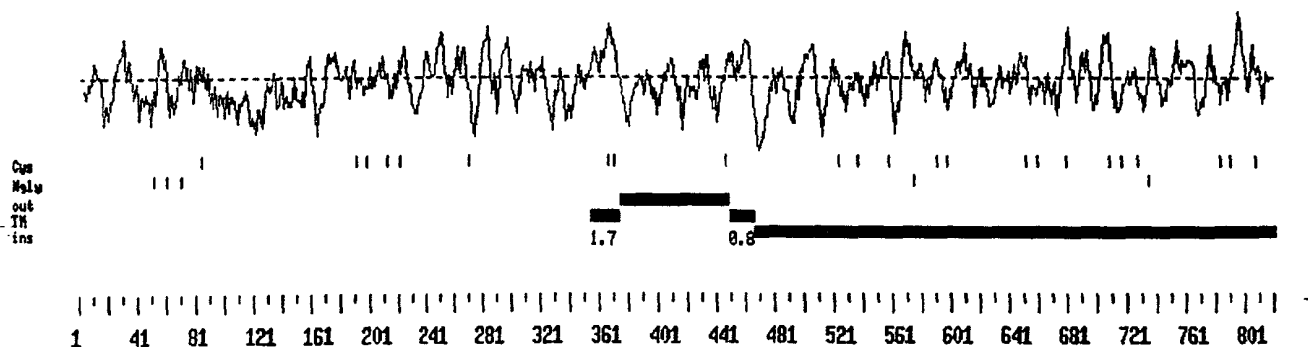


Fig.2

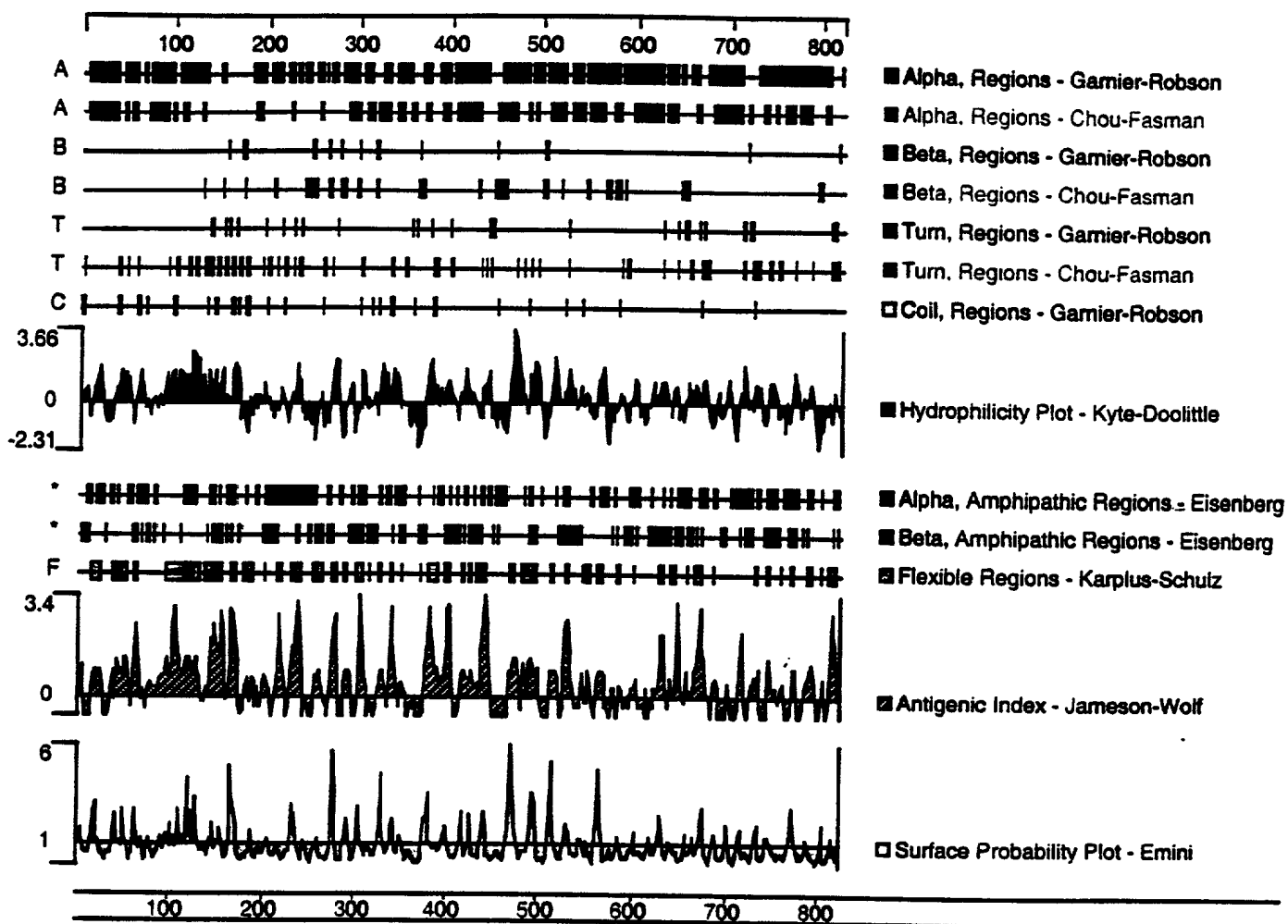


Fig. 3

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Fig. 4A

```
SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaeaLks<*-
```

Fig. 4B

```
$ EQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaeaLks<-*
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Fig. 4C

[illegible]

atg gca gaa tcg gat tct act gac ttt gac ctg ctg tgg tat cta gag	48
Met Ala Glu Ser Asp Ser Thr Asp Phe Asp Leu Leu Trp Tyr Leu Glu	
1 5 10 15	
aat ctc agt gac aag gaa ttt cag agt ttt aag aag tat ctg gca cgc	96
Asn Leu Ser Asp Lys Glu Phe Gln Ser Phe Lys Lys Tyr Leu Ala Arg	
20 25 30	
aag att ctt gat ttc aaa ctg cca cag ttt cca ctg ata cag atg aca	144
Lys Ile Leu Asp Phe Lys Leu Pro Gln Phe Pro Leu Ile Gln Met Thr	
35 40 45	
aaa gaa gaa ctg gct aac gtg ttg cca atc tct tat gag gga cag tat	192
Lys Glu Glu Leu Ala Asn Val Leu Pro Ile Ser Tyr Glu Gly Gln Tyr	
50 55 60	
ata tgg aat atg ctc ttc agc ata ttt tca atg atg cgt aag gaa gat	240
Ile Trp Asn Met Leu Phe Ser Ile Phe Ser Met Met Arg Lys Glu Asp	
65 70 75 80	
ctt tgt agg aag atc att ggc aga cga aac cat gtg ttc tac ata ctt	288
Leu Cys Arg Lys Ile Ile Gly Arg Arg Asn His Val Phe Tyr Ile Leu	
85 90 95	
caa tta gcc tat gat tct acc agc tat tat tca gca aac aat ctc aat	336
Gln Leu Ala Tyr Asp Ser Thr Ser Tyr Tyr Ser Ala Asn Asn Leu Asn	
100 105 110	
gtg ttc ctg atg gga gag aga gca tct gga aaa act att gtt ata aat	384
Val Phe Leu Met Gly Glu Arg Ala Ser Gly Lys Thr Ile Val Ile Asn	
115 120 125	
ctg gct gtg ttg agg tgg atc aag ggt gag atg tgg cag aac atg atc	432
Leu Ala Val Leu Arg Trp Ile Lys Gly Glu Met Trp Gln Asn Met Ile	
130 135 140	
tcg tac gtc gtt cac ctc act gct cac gaa ata aac cag atg acc aac	480
Ser Tyr Val Val His Leu Thr Ala His Glu Ile Asn Gln Met Thr Asn	
145 150 155 160	
agc agc ttg gct gag cta atc gcc aag gac tgg cct gac ggc cag gct	528
Ser Ser Leu Ala Glu Leu Ile Ala Lys Asp Trp Pro Asp Gly Gln Ala	
165 170 175	
ccc att gca gac atc ctg tct gat ccc aag aaa ctc ctt ttc atc ctc	576
Pro Ile Ala Asp Ile Leu Ser Asp Pro Lys Lys Leu Leu Phe Ile Leu	
180 185 190	
gag gac ttg gac aac ata aga ttc gag tta aat gtc aat gaa agt gct	624
Glu Asp Leu Asp Asn Ile Arg Phe Glu Leu Asn Val Asn Glu Ser Ala	
195 200 205	

Fig. 5A

ttg tgt agt aac agc acc cag aaa gtt ccc att cca gtt ctc ctg gtc	672
Leu Cys Ser Asn Ser Thr Gln Lys Val Pro Ile Pro Val Leu Leu Val	
210 215 220	
agt ttg ctg aag aga aaa atg gct cca ggc tgc tgg ttc ctc atc tcc	720
Ser Leu Leu Lys Arg Lys Met Ala Pro Gly Cys Trp Phe Leu Ile Ser	
225 230 235 240	
tca agg ccc aca cgt ggg aat aat gta aaa acg ttc ttg aaa gag gta	768
Ser Arg Pro Thr Arg Gly Asn Asn Val Lys Thr Phe Leu Lys Glu Val	
245 250 255	
gat tgc tgc acg acc ttg cag ctg tgc aat ggg aag agg gag ata tat	816
Asp Cys Cys Thr Thr Leu Gln Leu Ser Asn Gly Lys Arg Glu Ile Tyr	
260 265 270	
ttt aac tct ttc ttt aaa gac cgc cag agg gcg tgc gca gcc ctc cag	864
Phe Asn Ser Phe Phe Lys Asp Arg Gln Arg Ala Ser Ala Ala Leu Gln	
275 280 285	
ctt gta cat gag gat gaa ata ctc gtg ggt ctg tgc cga gtc gcc atc	912
Leu Val His Glu Asp Glu Ile Leu Val Gly Leu Cys Arg Val Ala Ile	
290 295 300	
tta tgc tgg atc acg tgt act gtc ctg aag cgg cag atg gac aag ggg	960
Leu Cys Trp Ile Thr Cys Thr Val Leu Lys Arg Gln Met Asp Lys Gly	
305 310 315 320	
cgt gac ttc cag ctc tgc tgc caa aca ccc act gat cta cat gcc cac	1008
Arg Asp Phe Gln Leu Cys Cys Gln Thr Pro Thr Asp Leu His Ala His	
325 330 335	
ttt ctt gct gat gcg ttg aca tca gag gct gga ctt act gcc aat cag	1056
Phe Leu Ala Asp Ala Leu Thr Ser Glu Ala Gly Leu Thr Ala Asn Gln	
340 345 350	
tat cac cta ggt ctc cta aaa cgt ctg tgt ttg ctg gct gca gga gga	1104
Tyr His Leu Gly Leu Leu Lys Arg Leu Cys Leu Leu Ala Ala Gly Gly	
355 360 365	
ctg ttt ctg agc acc ctg aat ttc agt ggt gaa gac ctc aga tgt gtt	1152
Leu Phe Leu Ser Thr Leu Asn Phe Ser Gly Glu Asp Leu Arg Cys Val	
370 375 380	
ggg ttt act gag gct gat gtc tct gtg ttg cag gcc gcg aat att ctt	1200
Gly Phe Thr Glu Ala Asp Val Ser Val Leu Gln Ala Ala Asn Ile Leu	
385 390 395 400	
ttg ccg agc aac act cat aaa gac cgt tac aag ttc ata cac ttg aac	1248
Leu Pro Ser Asn Thr His Lys Asp Arg Tyr Lys Phe Ile His Leu Asn	
405 410 415	

Fig. 5B

gtc cag gag ttt tgt aca gcc att gca ttt ctg atg gca gta ccc aac Val Gln Glu Phe Cys Thr Ala Ile Ala Phe Leu Met Ala Val Pro Asn 420 425 430	1296
tat ctg atc ccc tca ggc agc aga gag tat aaa gag aag aga gaa caa Tyr Leu Ile Pro Ser Gly Ser Arg Glu Tyr Lys Glu Lys Arg Glu Gln 435 440 445	1344
tac tct gac ttt aat caa gtg ttt act ttc att ttt ggt ctt cta aat Tyr Ser Asp Phe Asn Gln Val Phe Thr Phe Ile Phe Gly Leu Leu Asn 450 455 460	1392
gca aac agg aga aag att ctt gag aca tcc ttt gga tac cag cta ccg Ala Asn Arg Arg Lys Ile Leu Glu Thr Ser Phe Gly Tyr Gln Leu Pro 465 470 475 480	1440
atg gta gac agc ttc aag tgg tac tcg gtg gga tac atg aaa cat ttg Met Val Asp Ser Phe Lys Trp Tyr Ser Val Gly Tyr Met Lys His Leu 485 490 495	1488
gac cgt gac ccg gaa aag ttg acg cac cat atg cct ttg ttt tac tgt Asp Arg Asp Pro Glu Lys Leu Thr His His Met Pro Leu Phe Tyr Cys 500 505 510	1536
ctc tat gag aat cgg gaa gaa gaa ttt gtg aag acg att gtg gat gct Leu Tyr Glu Asn Arg Glu Glu Glu Phe Val Lys Thr Ile Val Asp Ala 515 520 525	1584
ctc atg gag gtt aca gtt tac ctt caa tca gac aag gat atg atg gtc Leu Met Glu Val Thr Val Tyr Leu Gln Ser Asp Lys Asp Met Met Val 530 535 540	1632
tca tta tac tgt ctg gat tac tgc tgt cac ctg agg aca ctt aag ttg Ser Leu Tyr Cys Leu Asp Tyr Cys Cys His Leu Arg Thr Leu Lys Leu 545 550 555 560	1680
agt gtt cag cgc atc ttt caa aac aaa gag cca ctt ata agg cca act Ser Val Gln Arg Ile Phe Gln Asn Lys Glu Pro Leu Ile Arg Pro Thr 565 570 575	1728
gct agt caa atg aag agc ctt gtc tac tgg aga gag atc tgc tct ctt Ala Ser Gln Met Lys Ser Leu Val Tyr Trp Arg Glu Ile Cys Ser Leu 580 585 590	1776
ttt tat aca atg gag agc ctc cgg gag ctg cat atc ttt gac aat gac Phe Tyr Thr Met Glu Ser Leu Arg Glu Leu His Ile Phe Asp Asn Asp 595 600 605	1824
ctt aat ggt att tca gaa agg att ctg tct aaa gcc ctg gag cat tct Leu Asn Gly Ile Ser Glu Arg Ile Leu Ser Lys Ala Leu Glu His Ser 610 615 620	1872

Fig. 5C

agc tgt aaa ctt cgc aca ctc aa
Ser Cys Lys Leu Arg Thr Leu
625 630

1895

Fig. 50

05443035-0303
T0E050-SE034360

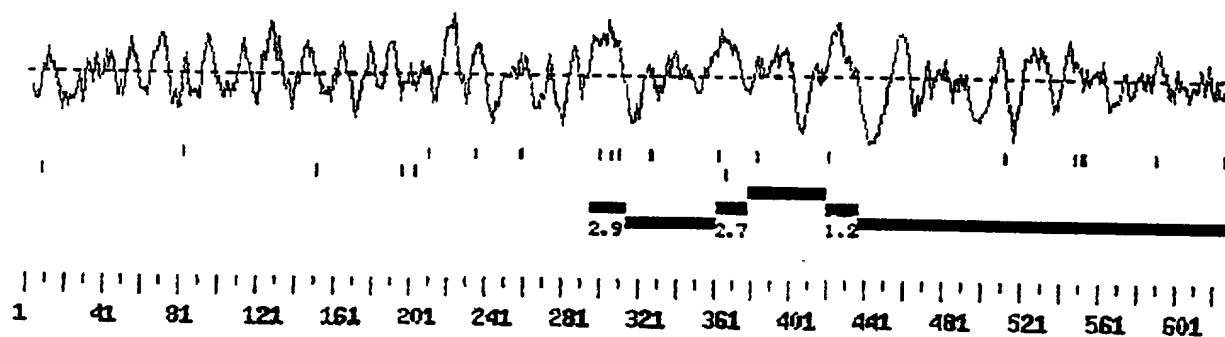


Fig. 6

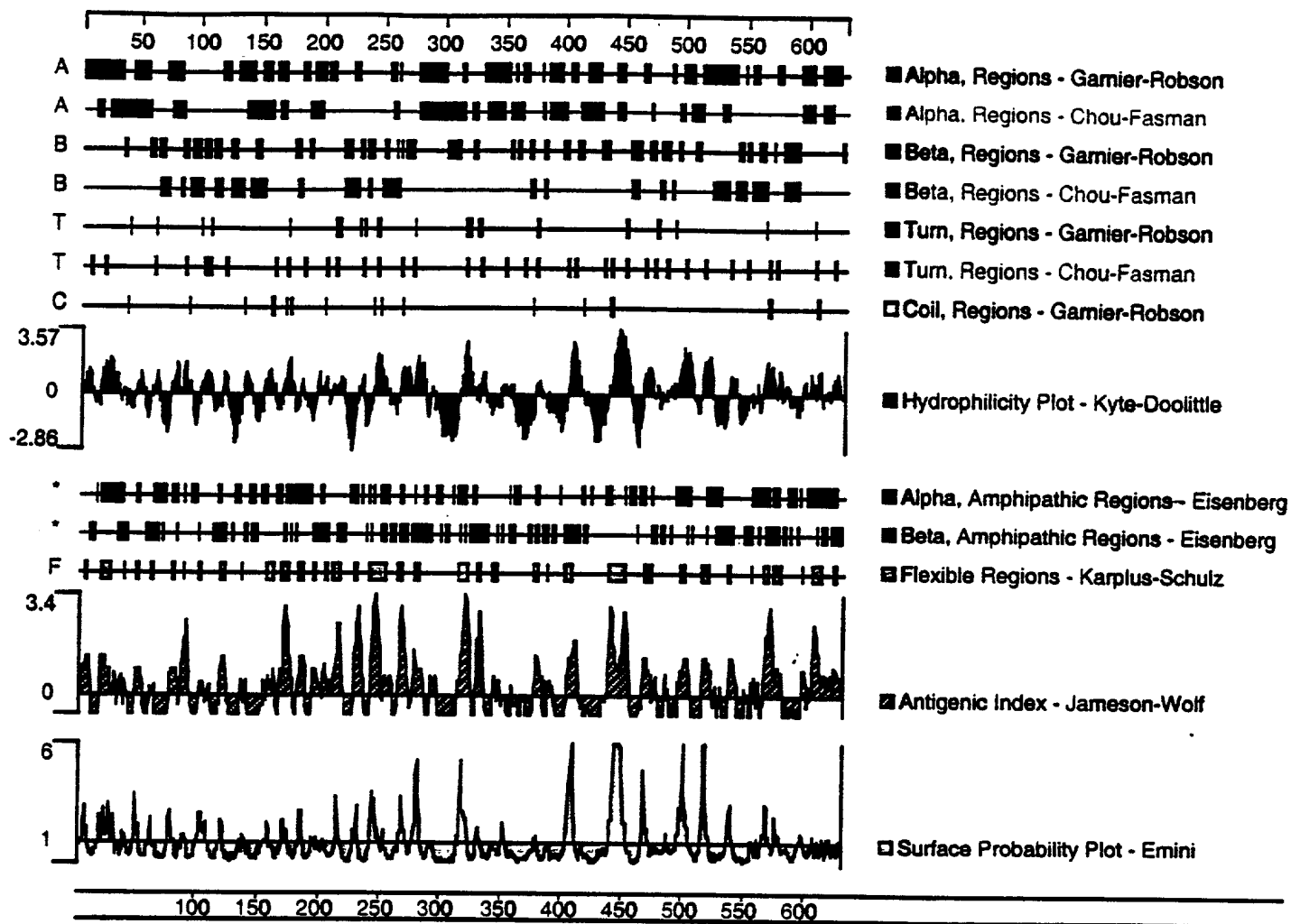


Fig. 7

LRR_R1_2: domain 1 of 1, from 596 to 623: score 11.0, E = 1.2
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 ++sLreL++ -N+1 r L++sL++
 NBS-3 596 MMSLRELHIFDNDLNGISERILSKALEH 623

Fig. 8

atg aag gct gaa cta ctg gag aca tgg gac aac atc agt tgg cct aaa	48
Met Lys Ala Glu Leu Leu Glu Thr Trp Asp Asn Ile Ser Trp Pro Lys	
1 5 10 15	
gac cac gta tat atc cgt aat aca tca aag gac gaa cat gag gaa ctg	96
Asp His Val Tyr Ile Arg Asn Thr Ser Lys Asp Glu His Glu Glu Leu	
20 25 30	
cag cgc cta ctg gat cct aat agg act aga gcc cag gcc cag acg ata	144
Gln Arg Leu Leu Asp Pro Asn Arg Thr Arg Ala Gln Ala Gln Thr Ile	
35 40 45	
gtc ttg gtg ggg agg gca ggg gtt ggg aag acc acc ttg gca atg cag	192
Val Leu Val Val Gly Arg Ala Gly Val Gly Lys Thr Thr Leu Ala Met Gln	
50 55 60	
gct atg ctg cac tgg gca aat gga gtt ctc ttt cag caa agg ttc tcc	240
Ala Met Leu His Trp Ala Asn Gly Val Leu Phe Gln Gln Arg Phe Ser	
65 70 75 80	
tat gtt ttc tat ctc agc tgc cat aaa ata agg tac atg aag gaa act	288
Tyr Val Phe Tyr Leu Ser Cys His Lys Ile Arg Tyr Met Lys Glu Thr	
85 90 95	
acc ttt gct gaa ttg att tct ttg gat tgg ccc gat ttt gat gcc ccc	336
Thr Phe Ala Glu Leu Ile Ser Leu Asp Trp Pro Asp Phe Asp Ala Pro	
100 105 110	
att gaa gag ttc atg tct caa cca gag aag ctc ctg ttt att att gat	384
Ile Glu Glu Phe Met Ser Gln Pro Glu Lys Leu Leu Phe Ile Ile Asp	
115 120 125	
ggc ttt gag gaa ata atc ata tct gag tca cgc tct gag agc ttg gat	432
Gly Phe Glu Glu Ile Ile Ile Ser Glu Ser Arg Ser Glu Ser Leu Asp	
130 135 140	
gat ggc tcg cca tgt aca gac tgg tac cag gag ctc cca gtg acc aaa	480
Asp Gly Ser Pro Cys Thr Asp Trp Tyr Gln Glu Leu Pro Val Thr Lys	
145 150 155 160	
atc cta cac agc ttg ttg aag aaa gaa ttg gtt ccc ctg gct acc tta	528
Ile Leu His Ser Leu Leu Lys Lys Glu Leu Val Pro Leu Ala Thr Leu	
165 170 175	
ctg atc acg atc aag acc tgg ttt gtg aga gat ctt aag gcc tca tta	576
Leu Ile Thr Ile Lys Thr Trp Phe Val Arg Asp Leu Lys Ala Ser Leu	
180 185 190	
gtg aat cca tgc ttt gta caa att aca ggg ttc aca ggg gac gac cta	624
Val Asn Pro Cys Phe Val Gln Ile Thr Gly Phe Thr Gly Asp Asp Leu	
195 200 205	

Fig. 9A

cgg gta tat ttc atg aga cac ttt gat gac tca agt gaa gtt gag aaa	672
Arg Val Tyr Phe Met Arg His Phe Asp Asp Ser Ser Glu Val Glu Lys	
210 215 220	
atc ctg cag cag cta aga aaa aac gaa act ctc ttt cat tcc tgc agt	720
Ile Leu Gln Gln Leu Arg Lys Asn Glu Thr Leu Phe His Ser Cys Ser	
225 230 235 240	
gcc ccc atg gtg tgt tgg acc gta tgt tcc tgt ctg aag cag ccg aag	768
Ala Pro Met Val Cys Trp Thr Val Cys Ser Cys Leu Lys Gln Pro Lys	
245 250 255	
gtg agg tat tac gat ctc cag tca atc act cag act acc acc agt ctg	816
Val Arg Tyr Tyr Asp Leu Gln Ser Ile Thr Gln Thr Thr Thr Ser Leu	
260 265 270	
tat gcc tat ttt ttc tcc aac ttg ttc tcc aca gca gag gta gat ttg	864
Tyr Ala Tyr Phe Phe Ser Asn Leu Phe Ser Thr Ala Glu Val Asp Leu	
275 280 285	
gca gat gac agc tgg cca gga caa tgg agg gcc ctc tgc agt ctg gcc	912
Ala Asp Asp Ser Trp Pro Gly Gln Trp Arg Ala Leu Cys Ser Leu Ala	
290 295 300	
ata gaa ggg ctg tgg tct atg aac ttc acg ttt aac aaa gaa gac act	960
Ile Glu Gly Leu Trp Ser Met Asn Phe Thr Phe Asn Lys Glu Asp Thr	
305 310 315 320	
gag atc gag ggc ctg gaa gtg cct ttc att gat tct ctc tac gag ttc	1008
Glu Ile Glu Gly Leu Glu Val Pro Phe Ile Asp Ser Leu Tyr Glu Phe	
325 330 335	
aat att ctt caa aag atc aat gac tgt ggg ggt tgc act act ttc acc	1056
Asn Ile Leu Gln Lys Ile Asn Asp Cys Gly Gly Cys Thr Thr Phe Thr	
340 345 350	
cac cta agt ttc cag gag ttt ttt gca gcc atg tcc ttt gtg cta gag	1104
His Leu Ser Phe Gln Glu Phe Phe Ala Ala Met Ser Phe Val Leu Glu	
355 360 365	
gaa cct aga gaa ttc cct ccc cat tcc aca aag cca caa gag atg aag	1152
Glu Pro Arg Glu Phe Pro Pro His Ser Thr Lys Pro Gln Glu Met Lys	
370 375 380	
atg tta ctg caa cac gtc ttg ctt gac aaa gaa gcc tac tgg act cca	1200
Met Leu Leu Gln His Val Leu Leu Asp Lys Glu Ala Tyr Trp Thr Pro	
385 390 395 400	
gtg gtt ctg ttc ttc ttt ggt ctt tta aat aaa aac ata gca aga gaa	1248
Val Val Leu Phe Phe Phe Gly Leu Leu Asn Lys Asn Ile Ala Arg Glu	
405 410 415	

Fig. 9B

ctg gaa gat act ttg cat tgt aaa ata tct ccc agg gta atg gag gaa	1296
Leu Glu Asp Thr Leu His Cys Lys Ile Ser Pro Arg Val Met Glu Glu	
420 425 430	
tta tta aag tgg gga gaa gag tta ggt aag gct gaa agt gcc tct ctc	1344
Leu Leu Lys Trp Gly Glu Glu Leu Gly Lys Ala Glu Ser Ala Ser Leu	
435 440 445	
caa ttt cac att cta cga ctt ttt cac tgc cta cac gag tcc cag gag	1392
Gln Phe His Ile Leu Arg Leu Phe His Cys Leu His Glu Ser Gln Glu	
450 455 460	
gaa gac ttc aca aag aag atg ttg ggt cgt atc ttt gaa gtt gac ctt	1440
Glu Asp Phe Thr Lys Lys Met Leu Gly Arg Ile Phe Glu Val Asp Leu	
465 470 475 480	
aat att ttg gag gac gaa gaa ctc caa gct tct tca ttt tgc cta aag	1488
Asn Ile Leu Glu Asp Glu Glu Leu Gln Ala Ser Ser Phe Cys Leu Lys	
485 490 495	
cac tgt aaa agg tta aat aag cta agg ctt tct gtt agc agt cac atc	1536
His Cys Lys Arg Leu Asn Lys Leu Arg Leu Ser Val Ser Ser His Ile	
500 505 510	
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515 520	

Fig. 9C

TE050-9E034350

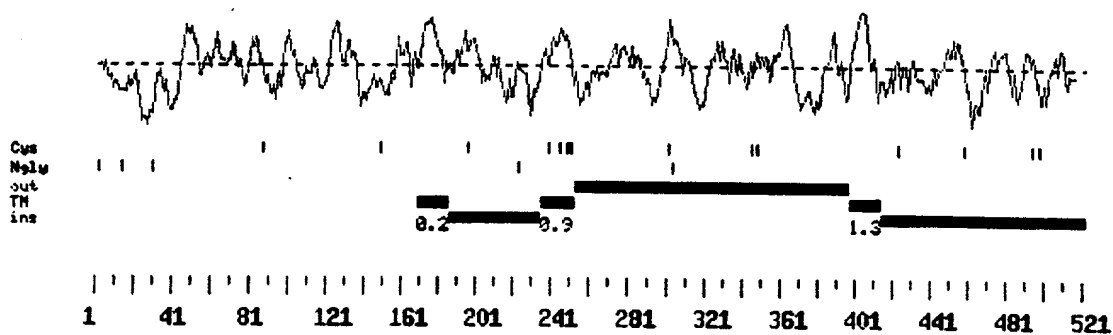


Fig. 10

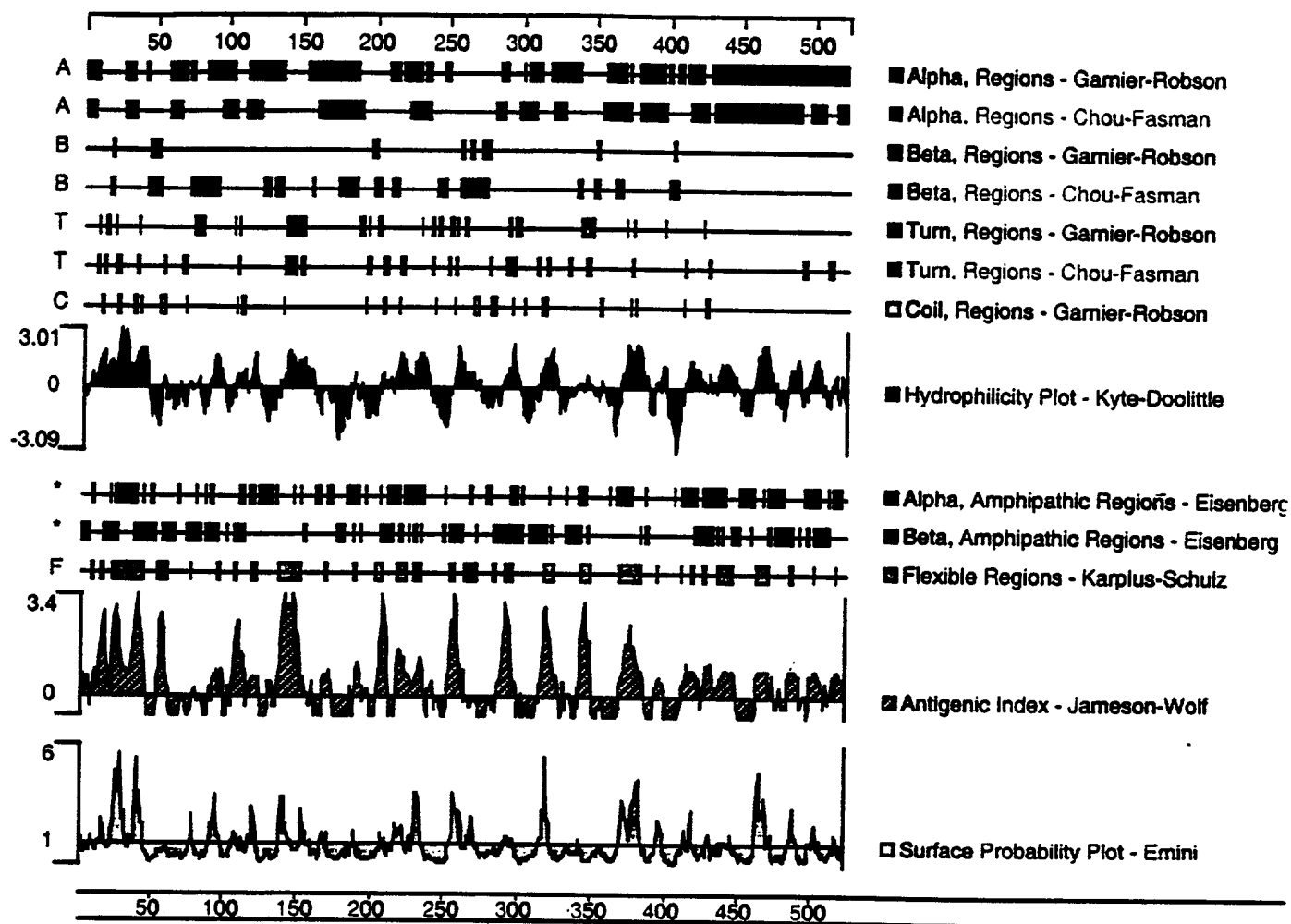


Fig. 11

NB-ARC: domain 1 of 1, from 50 to 79: score 9.4, E = 0.12
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+vG++G+GKTTLa q+ +++++ ++q +F
NBS-4 50 LVGRAGVGKTTLAMQAMLHWangVLFQORF 79

Fig. 1d

c agc cgc tta tgg tcc agc aag tct gtc act gag att cac cta tac ttt	49
Ser Arg Leu Trp Ser Ser Lys Ser Val Thr Glu Ile His Leu Tyr Phe	
1 5 10 15	
 gag gag gaa gtc aag caa gaa gaa tgt gac cat ttg gac cgc ctt ttt	97
Glu Glu Glu Val Lys Gln Glu Glu Cys Asp His Leu Asp Arg Leu Phe	
20 25 30	
 gct ccc aag gaa gct ggg aaa cag cca cgt aca gtg atc att caa gga	145
Ala Pro Lys Glu Ala Gly Lys Gln Pro Arg Thr Val Ile Ile Gln Gly	
35 40 45	
 cca caa gga att gga aaa acg aca ctc ctg atg aag ctg atg atg gcc	193
Pro Gln Gly Ile Gly Lys Thr Thr Leu Leu Met Lys Leu Met Met Ala	
50 55 60	
 tgg tgc gac aac aag atc ttt cgg gat agg ttc ctg tac acg ttc tat	241
Trp Ser Asp Asn Lys Ile Phe Arg Asp Arg Phe Leu Tyr Thr Phe Tyr	
65 70 75 80	
 ttc tgc tgc aga gaa ctg agg gag ttg ccg cca acg agt ttg gct gac	289
Phe Cys Cys Arg Glu Leu Arg Glu Leu Pro Pro Thr Ser Leu Ala Asp	
85 90 95	
 ttg att tcc aga gag tgg cct gac ccc gct gct cct ata aca gag atc	337
Leu Ile Ser Arg Glu Trp Pro Asp Pro Ala Ala Pro Ile Thr Glu Ile	
100 105 110	
 gtg tct caa ccg gag aga ctc ttg ttc gtc atc gac agc ttc gaa gag	385
Val Ser Gln Pro Glu Arg Leu Leu Phe Val Ile Asp Ser Phe Glu Glu	
115 120 125	
 ctg cag ggc ggc ttg aac gaa ccc gat tgc gat ctg tgt ggt gac ttg	433
Leu Gln Gly Gly Leu Asn Glu Pro Asp Ser Asp Leu Cys Gly Asp Leu	
130 135 140	
 atg gag aaa ccg ccg gtg cag gtg ctt ctg agc agt ttg ctg agg aag	481
Met Glu Lys Arg Pro Val Gln Val Leu Leu Ser Ser Leu Leu Arg Lys	
145 150 155 160	
 aag atg ctc ccg gag gcc tcc ctg ctc atc gct atc aaa ccc gtg tgc	529
Lys Met Leu Pro Glu Ala Ser Leu Leu Ile Ala Ile Lys Pro Val Cys	
165 170 175	
 ccg aag gag ctc ccg gat cag gtg acg atc tca gaa atc tac cag ccc	577
Pro Lys Glu Leu Arg Asp Gln Val Thr Ile Ser Glu Ile Tyr Gln Pro	
180 185 190	
 cgg gga ttc aac gag agt gat agg tta gtg tat ttc tgc tgt ttc ttc	625
Arg Gly Phe Asn Glu Ser Asp Arg Leu Val Tyr Phe Cys Cys Phe Phe	
195 200 205	

Fig. 13A

aaa gac ccg aaa aga gcc atg gaa gcc ttc aat ctt gta aga gaa agt	673
Lys Asp Pro Lys Arg Ala Met Glu Ala Phe Asn Leu Val Arg Glu Ser	
210 215 220	
gaa cag ctg ttt tcc ata tgc caa atc ccg ctc ctc tgc tgg atc ctg	721
Glu Gln Leu Phe Ser Ile Cys Gln Ile Pro Leu Leu Cys Trp Ile Leu	
225 230 235 240	
tgt acc agt ctg aag caa gag atg cag aaa gga aaa gac ctg gcc ctg	769
Cys Thr Ser Leu Lys Gln Glu Met Gln Lys Gly Lys Asp Leu Ala Leu	
245 250 255	
acc tgc cag agc act acc tct gtg tac tcc tct ttc gtc ttt aac ctg	817
Thr Cys Gln Ser Thr Thr Ser Val Tyr Ser Ser Phe Val Phe Asn Leu	
260 265 270	
ttc aca cct gag ggt gcc gag ggc ccg act ccg caa acc cag cac cag	865
Phe Thr Pro Glu Gly Ala Glu Gly Pro Thr Pro Gln Thr Gln His Gln	
275 280 285	
ctg aag gcc ctg tgc tcc ctg gct gca gag ggt atg tgg aca gac aca	913
Leu Lys Ala Leu Cys Ser Leu Ala Ala Glu Gly Met Trp Thr Asp Thr	
290 295 300	
ttt gag ttt tgt gaa gac gac ctc cgg aga aat ggg gtt gtt gac gct	961
Phe Glu Phe Cys Glu Asp Asp Leu Arg Arg Asn Gly Val Val Asp Ala	
305 310 315 320	
gac atc cct gcg ctg ctg ggc acc aag ata ctt ctg aag tac ggg gag	1009
Asp Ile Pro Ala Leu Leu Gly Thr Lys Ile Leu Leu Lys Tyr Gly Glu	
325 330 335	
cgt gag agc tcc tac gtg ttc ctc cac gtg tgt atc cag gag ttc tgt	1057
Arg Glu Ser Ser Tyr Val Phe Leu His Val Cys Ile Gln Glu Phe Cys	
340 345 350	
gcc gcc ttg ttc tat ttg ctc aag agc cac ctt gat cat cct cac cca	1105
Ala Ala Leu Phe Tyr Leu Leu Lys Ser His Leu Asp His Pro His Pro	
355 360 365	
gct gtg aga tgt gta cag gaa ttg cta gtt gcc aat ttt gaa aaa gca	1153
Ala Val Arg Cys Val Gln Glu Leu Leu Val Ala Asn Phe Glu Lys Ala	
370 375 380	
agg aga gca cat tgg att ttt ttg ggg tgt ttt cta act ggc ctt tta	1201
Arg Arg Ala His Trp Ile Phe Leu Gly Cys Phe Leu Thr Gly Leu Leu	
385 390 395 400	
aat aaa aag gaa caa gaa aaa ctg gat gcg ttt ttt ggc ttc caa ctg	1249
Asn Lys Lys Glu Gln Glu Lys Leu Asp Ala Phe Phe Gly Phe Gln Leu	
405 410 415	

Fig. 13B

tcc caa gag ata aag cag caa att cac cag tgc ctg aag agc tta ggg	1297
Ser Gln Glu Ile Lys Gln Gln Ile His Gln Cys Leu Lys Ser Leu Gly	
420 425 430	
gag cgt ggc aat cct cag gga cag gtg gat tcc ttg gcg ata ttt tac	1345
Glu Arg Gly Asn Pro Gln Gly Gln Val Asp Ser Leu Ala Ile Phe Tyr	
435 440 445	
tgt ctc ttt gaa atg cag gat cct gcc ttt gtg aag cag gca gtg aac	1393
Cys Leu Phe Glu Met Gln Asp Pro Ala Phe Val Lys Gln Ala Val Asn	
450 455 460	
ctc ctc caa gaa gct aac ttt cat att att gac aac gtg gac ttg gtg	1441
Leu Leu Gln Glu Ala Asn Phe His Ile Ile Asp Asn Val Asp Leu Val	
465 470 475 480	
gtt tct gcc tac tgc tta aaa tac tgc tcc agc ttg agg aaa ctc tgt	1489
Val Ser Ala Tyr Cys Leu Lys Tyr Cys Ser Ser Leu Arg Lys Leu Cys	
485 490 495	
ttt tcc gtt caa aat gtc ttt aag aaa gag gat gaa cac agc tct acg	1537
Phe Ser Val Gln Asn Val Phe Lys Lys Glu Asp Glu His Ser Ser Thr	
500 505 510	
tcg gat tac agc ctc atc tgt tgg cat cac atc tgc tct gtg ctc acc	1585
Ser Asp Tyr Ser Leu Ile Cys Trp His His Ile Cys Ser Val Leu Thr	
515 520 525	
acc agc ggg cac ctc aga gag ctc cag gtg cag gac agc acc ctc agc	1633
Thr Ser Gly His Leu Arg Glu Leu Gln Val Gln Asp Ser Thr Leu Ser	
530 535 540	
gag tcg acc ttt gtg acc tgg tgt aac cag ctg agg cat ccc agc tgt	1681
Glu Ser Thr Phe Val Thr Trp Cys Asn Gln Leu Arg His Pro Ser Cys	
545 550 555 560	
cgc ctt cag aag ctt gga ata aat aac gtt tcc ttt tct ggc cag agt	1729
Arg Leu Gln Lys Leu Gly Ile Asn Asn Val Ser Phe Ser Gly Gln Ser	
565 570 575	
gtt ctg ctc ttt gag gtg ctc ttt tat cag cca gac ttg aaa tac ctg	1777
Val Leu Leu Phe Glu Val Leu Phe Tyr Gln Pro Asp Leu Lys Tyr Leu	
580 585 590	
agc ttc acc ctc acg aaa ctc tct cgt gat gac atc agg tcc ctc tgt	1825
Ser Phe Thr Leu Thr Lys Leu Ser Arg Asp Asp Ile Arg Ser Leu Cys	
595 600 605	
gat gcc ttg aac tac cca gca ggc aac gtc aaa gag cta gcg ctg gta	1873
Asp Ala Leu Asn Tyr Pro Ala Gly Asn Val Lys Glu Leu Ala Leu Val	
610 615 620	

Fig. 13C

aat tgt cac ctc tca ccc att gat tgt gaa gtc ctt gct ggc ctt cta	1921
Asn Cys His Leu Ser Pro Ile Asp Cys Glu Val Leu Ala Gly Leu Leu	
625 630 635 640	
acc aac aac aag aag ctg acg tat ctg aat gta tcc tgc aac cag tta	1969
Thr Asn Asn Lys Lys Leu Thr Tyr Leu Asn Val Ser Cys Asn Gln Leu	
645 650 655	
gac aca ggc gtg ccc ctt ttg tgt gaa gcc ctg tgc agc cca gac acg	2017
Asp Thr Gly Val Pro Leu Leu Cys Glu Ala Leu Cys Ser Pro Asp Thr	
660 665 670	
gtc ctg gta tac ctg atg ttg gct ttc tgc cac ctc agc gag cag tgc	2065
Val Leu Val Tyr Leu Met Leu Ala Phe Cys His Leu Ser Glu Gln Cys	
675 680 685	
tgc gaa tac atc tct gaa atg ctt ctg cgt aac aag agc gtg cgc tat	2113
Cys Glu Tyr Ile Ser Glu Met Leu Leu Arg Asn Lys Ser Val Arg Tyr	
690 695 700	
cta gac ctc agt gcc aat gtc ctg aag gac gaa gga ctg aaa act ctc	2161
Leu Asp Leu Ser Ala Asn Val Leu Lys Asp Glu Gly Leu Lys Thr Leu	
705 710 715 720	
tgc gag gcc ttg aaa cat ccg gac tgc tgc ctg gat tca ctg tgt ttg	2209
Cys Glu Ala Leu Lys His Pro Asp Cys Cys Leu Asp Ser Leu Cys Leu	
725 730 735	
gta aaa tgt ttt atc act gct gct ggc tgt gaa gac ctc gcc tct gct	2257
Val Lys Cys Phe Ile Thr Ala Ala Gly Cys Glu Asp Leu Ala Ser Ala	
740 745 750	
ctc atc agc aat caa aac ctg aag att ctg caa att ggg tgc aat gaa	2305
Leu Ile Ser Asn Gln Asn Leu Lys Ile Leu Gln Ile Gly Cys Asn Glu	
755 760 765	
atc gga gat gtg ggt gtg cag ctg ttg tgt cgg gct ctg acg cat acg	2353
Ile Gly Asp Val Gly Val Gln Leu Leu Cys Arg Ala Leu Thr His Thr	
770 775 780	
gat tgc cgc tta gag att ctt ggg ttg gaa gaa tgt ggg tta acg agc	2401
Asp Cys Arg Leu Glu Ile Leu Gly Leu Glu Glu Cys Gly Leu Thr Ser	
785 790 795 800	
acc tgc tgt aag gat ctc gcg tct gtt ctc acc tgc agt aag acc ctg	2449
Thr Cys Cys Lys Asp Leu Ala Ser Val Leu Thr Cys Ser Lys Thr Leu	
805 810 815	
cag cag ctc aac ctg acc ttg aac acc ttg gac cac aca ggg gtg gtt	2497
Gln Gln Leu Asn Leu Thr Leu Asn Thr Leu Asp His Thr Gly Val Val	
820 825 830	

Fig. 13 D

gta	ctc	tgt	gag	gcc	ctg	aga	cac	cca	gag	tgt	gcc	ctg	cag	gtg	ctc	2545
Val	Leu	Cys	Glu	Ala	Leu	Arg	His	Pro	Glu	Cys	Ala	Leu	Gln	Val	Leu	
		835					840					845				

ggg	gtt	gtt	gca	gga	gta	aga	acc	aag	cag							2575
Gly	Val	Val	Ala	Gly	Val	Arg	Thr	Lys	Gln							
		850				855										

Fig. 13E

0984805-0001
T0E030-5E084860

706050" 5E084850

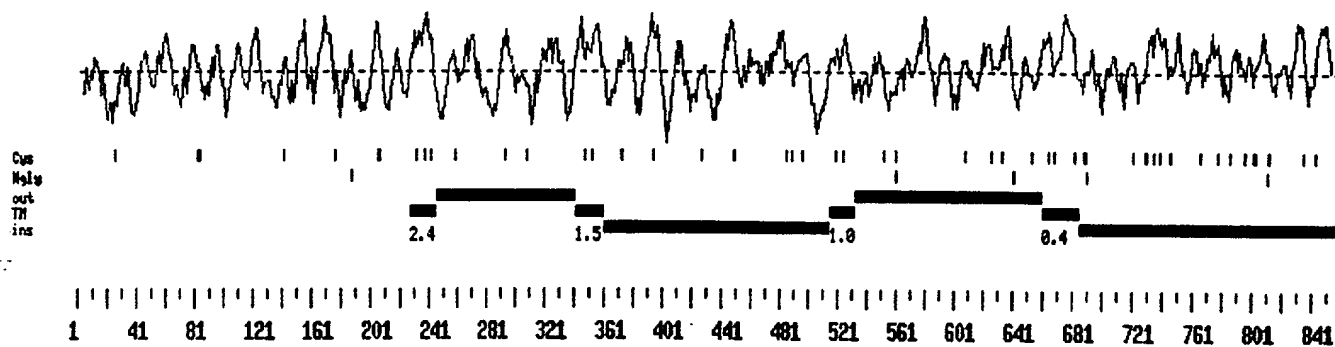


Fig. 14

LRR_RI_2: domain 1 of 8, from 530 to 557: score 6.4, E = 5.6

SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaealKs<-*
+ +LreL++++ +l ++ ++ L++

NBS-5 530 SGHLRELQVQDSTLSESTFVTWCNQLRH 557

LRR_RI_2: domain 2 of 8, from 615 to 642: score 5.2, E = 8.4

SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaealKs<-*
+ +eL L n++l + + +La +L+

NBS-5 615 AGNVKELALVNCNLSPIDCEVLGLLTN 642

LRR_RI_2: domain 3 of 8, from 643 to 669: score 9.3, E = 2.2

SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaealKs<-*
n++L L++s+N l d G+ L+eal s

NBS-5 643 NKKLTYLNVSCNQL-DTGVPLLCEALCS 669

LRR_RI_2: domain 4 of 8, from 699 to 726: score 32.8, E = 7.9e-06

SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaealKs<-*
n+s r LdLs N l deG + L+ealK+

NBS-5 699 NKSVRYLDLSANVLKDEGLKTLCEALKH 726

LRR_RI_2: domain 5 of 8, from 728 to 755: score 10.0, E = 1.8

SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaealKs<-*
++L L L + +++++G+ La+aL s

NBS-5 728 DCCLDLCLVKCFITAAGCEDLASALIS 755

LRR_RI_2: domain 6 of 8, from 756 to 783: score 30.9, E = 3e-05

SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaealKs<-*
n++L+ L++++N +gd G++ L+ aL++

NBS-5 756 NQNLKILQIGCNEIGDVGVLCCRALTH 783

LRR_RI_2: domain 7 of 8, from 785 to 812: score 8.0, E = 3.3

SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaealKs<-*
++L+ L L+ ++l+ ++ La++L+

NBS-5 785 DCRLEILGLEECGLTSTCCCKDLASVLTC 812

LRR_RI_2: domain 8 of 8, from 813 to 840: score 17.6, E = 0.14

SEQ ID NO:10 *->npsLreLdLsnNklgdeGaraLaealKs<-*
+++L+ L+L N+l G+ +L+eal++

NBS-5 813 SKFLQQLNLTNLTLNLTLDHTGVVVLCEALRH 840

Fig. 16A

Fig. 16B

Fig. 16C

Fig. 16D

Fig. 16E

Fig. 16F

Fig. 16G

Fig. 16H

09644035-030301

gaattcgaat tgggggaagt tcttcagcct taacctaaagg tctcatactc ggagcact	58
atg aca tcg ccc cag cta gag tgg act ctg cag acc ctt ctg gag cag	106
Met Thr Ser Pro Gln Leu Glu Trp Thr Leu Gln Thr Leu Leu Glu Gln	
1 5 10 15	
ctg aac gag gat gaa tta aag agt ttc aaa tcc ctt tta tgg gct ttt	154
Leu Asn Glu Asp Glu Leu Lys Ser Phe Lys Ser Leu Leu Trp Ala Phe	
20 25 30	
ccc ctc gaa gac gtg cta cag aag acc cca tgg tct gag gtg gaa gag	202
Pro Leu Glu Asp Val Leu Gln Lys Thr Pro Trp Ser Glu Val Glu Glu	
35 40 45	
gct gat ggc aag aaa ctg gca gaa att ctg gtc aac acc tcc tca gaa	250
Ala Asp Gly Lys Lys Leu Ala Glu Ile Leu Val Asn Thr Ser Ser Glu	
50 55 60	
aat tgg ata agg aat gcg act gtg aac atc ttg gaa gag atg aat ctc	298
Asn Trp Ile Arg Asn Ala Thr Val Asn Ile Leu Glu Glu Met Asn Leu	
65 70 75 80	
acg gaa ttg tgt aag atg gca aag gct gag atg atg gag gac gga cag	346
Thr Glu Leu Cys Lys Met Ala Lys Ala Glu Met Met Glu Asp Gly Gln	
85 90 95	
gtg caa gaa ata gat aat cct gag ctg gga gat gca gaa gaa gac tcg	394
Val Gln Glu Ile Asp Asn Pro Glu Leu Gly Asp Ala Glu Glu Asp Ser	
100 105 110	
gag tta gca aag cca ggt gaa aag gaa gga tgg aga aat tca atg gag	442
Glu Leu Ala Lys Pro Gly Glu Lys Glu Gly Trp Arg Asn Ser Met Glu	
115 120 125	
aaa cag tct ttg gtc tgg aag aac acc ttt tgg caa gga gac att gac	490
Lys Gln Ser Leu Val Trp Lys Asn Thr Phe Trp Gln Gly Asp Ile Asp	
130 135 140	
aat ttc cat gac gac gtc act ctg aga aac caa cgg ttc att cca ttc	538
Asn Phe His Asp Asp Val Thr Leu Arg Asn Gln Arg Phe Ile Pro Phe	
145 150 155 160	
ttg aat ccc aga aca ccc agg aag cta aca cct tac acg gtg gtg ctg	586
Leu Asn Pro Arg Thr Pro Arg Lys Leu Thr Pro Tyr Thr Val Val Leu	
165 170 175	
cac ggc ccc gca ggc gtg ggg aaa acc acg ctg gcc aaa aag tgt atg	634
His Gly Pro Ala Gly Val Gly Lys Thr Thr Leu Ala Lys Lys Cys Met	
180 185 190	
ctg gac tgg aca gac tgc aac ctc agc ccg acg ctc aga tac gcg ttc	682
Leu Asp Trp Thr Asp Cys Asn Leu Ser Pro Thr Leu Arg Tyr Ala Phe	
195 200 205	
tac ctc agc tgc aag gag ctc agc cgc atg ggc ccc tgc agt ttt gca	730
Tyr Leu Ser Cys Lys Glu Leu Ser Arg Met Gly Pro Cys Ser Phe Ala	
210 215 220	

Fig. 17A

gag ctg atc tcc aaa gac tgg cct gaa ttg cag gat gac att cca agc	778
Glu Leu Ile Ser Lys Asp Trp Pro Glu Leu Gln Asp Asp Ile Pro Ser	
225 230 235 240	
atc cta gcc caa gca cag aga atc ctg ttc gtg gtc gat ggc ctt gat	826
Ile Leu Ala Gln Ala Gln Arg Ile Leu Phe Val Val Asp Gly Leu Asp	
245 250 255	
gag ctg aaa gtc cca cct ggg gcg ctg atc cag gac atc tgc ggg gac	874
Glu Leu Lys Val Pro Pro Gly Ala Leu Ile Gln Asp Ile Cys Gly Asp	
260 265 270	
tgg gag aag aag aag ccg gtg ccc gtc ctc ctg ggg agt ttg ctg aag	922
Trp Glu Lys Lys Lys Pro Val Pro Val Leu Leu Gly Ser Leu Leu Lys	
275 280 285	
agg aag atg tta ccc agg gca gcc ttg ctg gtc acc acg cgg ccc agg	970
Arg Lys Met Leu Pro Arg Ala Ala Leu Leu Val Thr Thr Arg Pro Arg	
290 295 300	
gca ctg agg gac ctc cag ctc ctg gcg cag cag ccg atc tac gta agg	1018
Ala Leu Arg Asp Leu Gln Leu Leu Ala Gln Gln Pro Ile Tyr Val Arg	
305 310 315 320	
gtg gag ggc ttc ctg gag gag gac agg agg gcc tat ttc ctg aga cac	1066
Val Glu Gly Phe Leu Glu Glu Asp Arg Arg Ala Tyr Phe Leu Arg His	
325 330 335	
ttt gga gac gag gac caa gcc atg cgt gcc ttt gag cta atg agg agc	1114
Phe Gly Asp Glu Asp Gln Ala Met Arg Ala Phe Glu Leu Met Arg Ser	
340 345 350	
aac gcg gcc ctg ttc cag ctg ggc tcg gcc ccc gcg gtg tgc tgg att	1162
Asn Ala Ala Leu Phe Gln Leu Gly Ser Ala Pro Ala Val Cys Trp Ile	
355 360 365	
gtg tgc acg act ctg aag ctg cag atg gag aag ggg gag gac ccg gtc	1210
Val Cys Thr Thr Leu Lys Leu Gln Met Glu Lys Gly Glu Asp Pro Val	
370 375 380	
ccc acc tgc ctc acc cgc acg ggg ctg ttc ctg cgt ttc ctc tgc agc	1258
Pro Thr Cys Leu Thr Arg Thr Gly Leu Phe Leu Arg Phe Leu Cys Ser	
385 390 395 400	
cgg ttc ccg cag ggc gca cag ctg cgg ggc gcg ctg cgg acg ctg agc	1306
Arg Phe Pro Gln Gly Ala Gln Leu Arg Gly Ala Leu Arg Thr Leu Ser	
405 410 415	
ctc ctg gcc gcg cag ggc ctg tgg gcg cag atg tcc gtg ttc cac cga	1354
Leu Leu Ala Ala Gln Gly Leu Trp Ala Gln Met Ser Val Phe His Arg	
420 425 430	
gag gac ctg gaa agg ctc ggg gtg cag gag tcc gac ctc cgt ctg ttc	1402
Glu Asp Leu Glu Arg Leu Gly Val Gln Glu Ser Asp Leu Arg Leu Phe	
435 440 445	

Fig. 17B

ctg gac gga gac atc ctc cgc cag gac aga gtc tcc aaa ggc tgc tac	1450
Leu Asp Gly Asp Ile Leu Arg Gln Asp Arg Val Ser Lys Gly Cys Tyr	
450 455 460	
tcc ttc atc cac ctc agc ttc cag cag ttt ctc act gcc ctg ttc tac	1498
Ser Phe Ile His Leu Ser Phe Gln Gln Phe Leu Thr Ala Leu Phe Tyr	
465 470 475 480	
gcc ctg gag aag gag gag ggg gag gac agg gac ggc cac gcc tgg gac	1546
Ala Leu Glu Lys Glu Glu Gly Glu Asp Arg Asp Gly His Ala Trp Asp	
485 490 495	
atc ggg gac gta cag aag ctg ctt tcc gga gaa gaa aga ctc aag aac	1594
Ile Gly Asp Val Gln Lys Leu Leu Ser Gly Glu Glu Arg Leu Lys Asn	
500 505 510	
ccc gac ctg att caa gta gga cac ttc tta ttc ggc ctc gct aac gag	1642
Pro Asp Leu Ile Gln Val Gly His Phe Leu Phe Gly Leu Ala Asn Glu	
515 520 525	
aag aga gcc aag gag ttg gag gcc act ttt ggc tgc cgg atg tca ccg	1690
Lys Arg Ala Lys Glu Leu Glu Ala Thr Phe Gly Cys Arg Met Ser Pro	
530 535 540	
gac atc aaa cag gaa ttg ctg caa tgc aaa gca cat ctt cat gca aat	1738
Asp Ile Lys Gln Glu Leu Leu Gln Cys Lys Ala His Leu His Ala Asn	
545 550 555 560	
aag ccc tta tcc gtg acc gac ctg aag gag gtc ttg ggc tgc ctg tat	1786
Lys Pro Leu Ser Val Thr Asp Leu Lys Glu Val Leu Gly Cys Leu Tyr	
565 570 575	
gag tct cag gag gag gag ctg gcg aag gtg gtg gtg gcc ccg ttc aag	1834
Glu Ser Gln Glu Glu Glu Leu Ala Lys Val Val Val Ala Pro Phe Lys	
580 585 590	
gaa att tct att cac ctg aca aat act tct gaa gtg atg cat tgt tcc	1882
Glu Ile Ser Ile His Leu Thr Asn Thr Ser Glu Val Met His Cys Ser	
595 600 605	
ttc agc ctg aag cat tgt caa gac ttg cag aaa ctc tca ctg cag gta	1930
Phe Ser Leu Lys His Cys Gln Asp Leu Gln Lys Leu Ser Leu Gln Val	
610 615 620	
gca aag ggg gtg ttc ctg gag aat tac atg gat ttt gaa ctg gac att	1978
Ala Lys Gly Val Phe Leu Glu Asn Tyr Met Asp Phe Glu Leu Asp Ile	
625 630 635 640	
gaa ttt gaa agg tgc act tac cta acc att ccg aac tgg gct cgg cag	2026
Glu Phe Glu Arg Cys Thr Tyr Leu Thr Ile Pro Asn Trp Ala Arg Gln	
645 650 655	
gat ctt cgc tct ctt cgc ctc tgg aca gat ttc tgc tct ctc ttc agc	2074
Asp Leu Arg Ser Leu Arg Leu Trp Thr Asp Phe Cys Ser Leu Phe Ser	
660 665 670	

Fig. 17C

gag gcg ctc caa gaa gcc tgc agc ctc aca aac ctg gac ttg agt atc	2794
Glu Ala Leu Gln Glu Ala Cys Ser Leu Thr Asn Leu Asp Leu Ser Ile	
900 905 910	
aac cag ata gct cgt gga ttg tgg att ctc tgt cag gca tta gag aat	2842
Asn Gln Ile Ala Arg Gly Leu Trp Ile Leu Cys Gln Ala Leu Glu Asn	
915 920 925	
cca aac tgt aac cta aaa cac cta cgg ttg aag acc tat gaa act aat	2890
Pro Asn Cys Asn Leu Lys His Leu Arg Leu Lys Thr Tyr Glu Thr Asn	
930 935 940	
ttg gaa atc aag aag ctg ttg gag gaa gtg aaa gaa aag aat ccc aag	2938
Leu Glu Ile Lys Lys Leu Leu Glu Glu Val Lys Glu Lys Asn Pro Lys	
945 950 955 960	
ctg act att gat tgc aat gct tcc ggg gca acg gca cct ccg tgc tgt	2986
Leu Thr Ile Asp Cys Asn Ala Ser Gly Ala Thr Ala Pro Pro Cys Cys	
965 970 975	
gac ttt ttt tgc tgagcagcct gggatcgctc tacgaattac acaggaagcg	3038
Asp Phe Phe Cys	
980	
ggattcgggt ctctaagatg tcttatgaat gcaggtcaga gggtcacatg ttaacactag	3098
agtctgtcga gaggtaggat ttgacactgg ttttctcact atttttggga gattctgcac	3158
gagtcacgca ccccttcac atgacgctat gtactttctc acagggataa taaagttaga	3218
gcactctcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa	3263

Fig. 17E

atg gca gaa tcg gat tct act gac ttt gac ctg ctg tgg tat cta gag	48
Met Ala Glu Ser Asp Ser Thr Asp Phe Asp Leu Leu Trp Tyr Leu Glu	
1 5 10 15	
aat ctc agt gac aag gaa ttt cag agt ttt aag aag tat ctg gca cgc	96
Asn Leu Ser Asp Lys Glu Phe Gln Ser Phe Lys Lys Tyr Leu Ala Arg	
20 25 30	
aag att ctt gat ttc aaa ctg cca cag ttt cca ctg ata cag atg aca	144
Lys Ile Leu Asp Phe Lys Leu Pro Gln Phe Pro Leu Ile Gln Met Thr	
35 40 45	
aaa gaa gaa ctg gct aac gtg ttg cca atc tct tat gag gga cag tat	192
Lys Glu Glu Leu Ala Asn Val Leu Pro Ile Ser Tyr Glu Gly Gln Tyr	
50 55 60	
ata tgg aat atg ctc ttc agc ata ttt tca atg atg cgt aag gaa gat	240
Ile Trp Asn Met Leu Phe Ser Ile Phe Ser Met Met Arg Lys Glu Asp	
65 70 75 80	
ctt tgt agg aag atc att ggc aga cga aac cat gtg ttc tac ata ctt	288
Leu Cys Arg Lys Ile Ile Gly Arg Arg Asn His Val Phe Tyr Ile Leu	
85 90 95	
caa tta gcc tat gat tct acc agc tat tat tca gca aac aat ctc aat	336
Gln Leu Ala Tyr Asp Ser Thr Ser Tyr Tyr Ser Ala Asn Asn Leu Asn	
100 105 110	
gtg ttc ctg atg gga gag aga gca tct gga aaa act att gtt ata aat	384
Val Phe Leu Met Gly Glu Arg Ala Ser Gly Lys Thr Ile Val Ile Asn	
115 120 125	
ctg gct gtg ttg agg tgg atc aag ggt gag atg tgg cag aac atg atc	432
Leu Ala Val Leu Arg Trp Ile Lys Gly Glu Met Trp Gln Asn Met Ile	
130 135 140	
tcg tac gtc gtt cac ctc act tct cac gaa ata aac cag atg acc aac	480
Ser Tyr Val Val His Leu Thr Ser His Glu Ile Asn Gln Met Thr Asn	
145 150 155 160	
agc agc ttg gct gag cta atc gcc aag gac tgg cct gac ggc cag gct	528
Ser Ser Leu Ala Glu Leu Ile Ala Lys Asp Trp Pro Asp Gly Gln Ala	
165 170 175	
ccc att gca gac atc ctg tct gat ccc aag aaa ctc ctt ttc att ctc	576
Pro Ile Ala Asp Ile Leu Ser Asp Pro Lys Lys Leu Leu Phe Ile Leu	
180 185 190	
gag gac ttg gac aac ata aga ttc gag tta aat gtc aat gaa agt gct	624
Glu Asp Leu Asp Asn Ile Arg Phe Glu Leu Asn Val Asn Glu Ser Ala	
195 200 205	
ttg tgt agt aac agc acc cag aaa gtt ccc att cca gtt ctc ctg gtc	672
Leu Cys Ser Asn Ser Thr Gln Lys Val Pro Ile Pro Val Leu Leu Val	
210 215 220	

Fig. 18A

agt ttg ctg aag aga aaa atg gct cca ggc tgc tgg ttc ctc atc tcc	720
Ser Leu Leu Lys Arg Lys Met Ala Pro Gly Cys Trp Phe Leu Ile Ser	
225 230 235 240	
tca agg ccc aca cgt ggg aat aat gta aaa acg ttc ttg aaa gag gta	768
Ser Arg Pro Thr Arg Gly Asn Asn Val Lys Thr Phe Leu Lys Glu Val	
245 250 255	
gat tgc tgc acg acc ttg cag ctg tgc aat ggg aag agg gag ata tat	816
Asp Cys Cys Thr Thr Leu Gln Leu Ser Asn Gly Lys Arg Glu Ile Tyr	
260 265 270	
ttt aac tct ttc ttt aaa gac cgc cag agg gcg tgc gca gcc ctc cag	864
Phe Asn Ser Phe Phe Lys Asp Arg Gln Arg Ala Ser Ala Ala Leu Gln	
275 280 285	
ctt gta cat gag gat gaa ata ctc gtg ggt ctg tgc cga gtc gcc atc	912
Leu Val His Glu Asp Glu Ile Leu Val Gly Leu Cys Arg Val Ala Ile	
290 295 300	
tta tgc tgg atc acg tgt act gtc ctg aag cgg cag atg gac aag ggg	960
Leu Cys Trp Ile Thr Cys Thr Val Leu Lys Arg Gln Met Asp Lys Gly	
305 310 315 320	
cgt gac ttc cag ctc tgc tgc caa aca ccc act gat cta cat gcc cac	1008
Arg Asp Phe Gln Leu Cys Cys Gln Thr Pro Thr Asp Leu His Ala His	
325 330 335	
ttt ctt gct gat gcg ttg aca tca gag gct gga ctt act gcc aat cag	1056
Phe Leu Ala Asp Ala Leu Thr Ser Glu Ala Gly Leu Thr Ala Asn Gln	
340 345 350	
tat cac cta ggt ctc cta aaa cgt ctg tgt ttg ctg gct gca gga gga	1104
Tyr His Leu Gly Leu Leu Lys Arg Leu Cys Leu Leu Ala Ala Gly Gly	
355 360 365	
ctg ttt ctg agc acc ctg aat ttc agt ggt gaa gac ctc aga tgt gtt	1152
Leu Phe Leu Ser Thr Leu Asn Phe Ser Gly Glu Asp Leu Arg Cys Val	
370 375 380	
ggg ttt act gag gct gat gtc tct gtg ttg cag gcc gcg aat att ctt	1200
Gly Phe Thr Glu Ala Asp Val Ser Val Leu Gln Ala Ala Asn Ile Leu	
385 390 395 400	
ttg ccg agc aac act cat aaa gac cgt tac aag ttc ata cac ttg aac	1248
Leu Pro Ser Asn Thr His Lys Asp Arg Tyr Lys Phe Ile His Leu Asn	
405 410 415	
gtc cag gag ttt tgt aca gcc att gca ttt ctg atg gca gta ccc aac	1296
Val Gln Glu Phe Cys Thr Ala Ile Ala Phe Leu Met Ala Val Pro Asn	
420 425 430	
tat ctg atc ccc tca ggc agc aga gag tat aaa gag aag aga gaa caa	1344
Tyr Leu Ile Pro Ser Gly Ser Arg Glu Tyr Lys Glu Lys Arg Glu Gln	
435 440 445	

Fig. 18B

tac tct gac ttt aat caa gtg ttt act ttc att ttt ggt ctt cta aat	1392
Tyr Ser Asp Phe Asn Gln Val Phe Thr Phe Ile Phe Gly Leu Leu Asn	
450 455 460	
gca aac agg aga aag att ctt gag aca tcc ttt gga tac cag cta ccg	1440
Ala Asn Arg Arg Lys Ile Leu Glu Thr Ser Phe Gly Tyr Gln Leu Pro	
465 470 475 480	
atg gta gac agc ttc aag tgg tac tcg gtg gga tac atg aaa cat ttg	1488
Met Val Asp Ser Phe Lys Trp Tyr Ser Val Gly Tyr Met Lys His Leu	
485 490 495	
gac cgt gac ccg gaa aag ttg acg cac cat atg cct ttg ttt tac tgt	1536
Asp Arg Asp Pro Glu Lys Leu Thr His His Met Pro Leu Phe Tyr Cys	
500 505 510	
ctc tat gag aat cgg gaa gaa gaa ttt gtg aag acg att gtg gat gct	1584
Leu Tyr Glu Asn Arg Glu Glu Glu Phe Val Lys Thr Ile Val Asp Ala	
515 520 525	
ctc atg gag gtt aca gtt tac ctt caa tca gac aag gat atg atg gtc	1632
Leu Met Glu Val Thr Val Tyr Leu Gln Ser Asp Lys Asp Met Met Val	
530 535 540	
tca tta tac tgt ctg gat tac tgc tgt cac ctg agg aca ctt aag ttg	1680
Ser Leu Tyr Cys Leu Asp Tyr Cys Cys His Leu Arg Thr Leu Lys Leu	
545 550 555 560	
agt gtt cag cgc atc ttt caa aac aaa gag cca ctt ata agg cca act	1728
Ser Val Gln Arg Ile Phe Gln Asn Lys Glu Pro Leu Ile Arg Pro Thr	
565 570 575	
gct agt caa atg aag agc ctt gtc tac tgg aga gag atc tgc tct ctt	1776
Ala Ser Gln Met Lys Ser Leu Val Tyr Trp Arg Glu Ile Cys Ser Leu	
580 585 590	
ttt tat aca atg gag agc ctc cgg gag ctg cat atc ttt gac aat gac	1824
Phe Tyr Thr Met Glu Ser Leu Arg Glu Leu His Ile Phe Asp Asn Asp	
595 600 605	
ctt aat ggt att tca gaa agg att ctg tct aaa gcc ctg gag cat tct	1872
Leu Asn Gly Ile Ser Glu Arg Ile Leu Ser Lys Ala Leu Glu His Ser	
610 615 620	
agc tgt aaa ctt cgc aca ctc aag ttg tcc tat gtc tcg act gct tct	1920
Ser Cys Lys Leu Arg Thr Leu Lys Leu Ser Tyr Val Ser Thr Ala Ser	
625 630 635 640	
ggt ttt gaa gac tta ctc aag gct ttg gct cgt aat cgg agc ctg aca	1968
Gly Phe Glu Asp Leu Leu Lys Ala Leu Ala Arg Asn Arg Ser Leu Thr	
645 650 655	
tac ctg agt atc aac tgt acg tcc att tcc cta aat atg ttt tca ctt	2016
Tyr Leu Ser Ile Asn Cys Thr Ser Ile Ser Leu Asn Met Phe Ser Leu	
660 665 670	

Fig. 18C

